

IN THE CLAIMS

1 1. (previously presented) A negotiated wireless peripheral system
2 comprising:
3 a short-range wireless transceiver operative to support a position-dependent
4 ecommerce session with a mobile unit;
5 a negotiation module coupled to the short-range wireless transceiver, the
6 negotiation module operative to engage in a handshaking sequence with the mobile unit
7 to establish the position-dependent ecommerce session;
8 a service module coupled to the short-range wireless transceiver and operative to
9 supply at least one user interface peripheral augmentation service to the mobile unit; and
10 a contract module operative to negotiate a billing arrangement with the mobile
11 unit for use of the at least one user interface peripheral augmentation service.

1 2. (previously presented) The negotiated wireless peripheral of Claim 1,
2 wherein:
3 the contract module communicates with a server-side management entity to access
4 a pre-negotiated billing arrangement with the mobile unit.

1 3. (previously presented) The negotiated wireless peripheral of Claim 1,
2 wherein:
3 the contract module performs a digital debit and/or digital credit card transaction
4 with the mobile unit.

1 4. (previously presented) The negotiated wireless peripheral of Claim 1,
2 wherein:
3 the user interface peripheral augmentation service provides the mobile unit with
4 desktop sized display surface, a desktop-style keyboard, and a pointing device.

1 5. (previously presented) The negotiated wireless peripheral of Claim 1,
2 wherein:
3 the user interface peripheral augmentation service comprises a video conferencing
4 user interface for the mobile unit.

1 6. (previously presented) The negotiated wireless peripheral of Claim 1,
2 wherein:

3 the position-dependent ecommerce session involves at least one security
4 association and at least one corresponding encryption algorithm.

1 7. (previously presented) For use in a negotiated wireless peripheral
2 system, a method comprising:

3 communicating via a wireless local area network protocol with a mobile unit to
4 initiate the establishment of a position-dependent ecommerce session therewith;
5 engaging in a handshaking sequence with the mobile unit to establish the position-
6 dependent ecommerce session;
7 negotiating a billing arrangement with the mobile unit;
8 supplying at least one user interface peripheral augmentation service to the mobile
9 unit; and

10 billing for the user interface peripheral augmentation service supplied to the
11 mobile unit.

1 8. (previously presented) The method of Claim 7, wherein the position-
2 dependent ecommerce session is established via a wireless local area network (wLAN)
3 connection.

1 9. (previously presented) The method of Claim 7, wherein the position-
2 dependent ecommerce session is established via a wireless wide area network (wWAN)
3 and is initiated by having the mobile unit send a location parameter to a negotiated
4 wireless peripheral management server.

1 10. (previously presented) The method of Claim 9, wherein location
2 parameter comprises a set of global positioning system (GPS) coordinates.

1 11. (previously presented) The method of Claim 9, wherein location
2 parameter comprises a set of local positioning system (LPS) coordinates.

1 12. (previously presented) The method of Claim 9, wherein location
2 parameter comprises an identification code visibly located on the negotiated wireless
3 peripheral device.

1 13. (previously presented) The method of Claim 7, wherein the position-
2 dependent ecommerce session is established via a wireless wide area network (wWAN)
3 and is initiated by having the mobile unit send a URI or URL to a negotiated wireless

4 peripheral management server, whereby the URI or URL is visibly located on the
5 negotiated wireless peripheral device.

1 14. (previously presented) The method of Claim 7, wherein peripheral-
2 extension service further comprises:

3 passing a stub object to the mobile unit; and

4 invoking an input and/or output method in a remote object that receives a message
5 involving a marshaled method invocations and/or marshaled parameters from the stub
6 object.

1 15. (previously presented) The method of Claim 7, wherein peripheral-
2 extension service further comprises:

3 passing a stub object to the mobile unit; and

4 invoking a WAN communication method in a remote object that receives a
5 message involving a marshaled method invocations and/or marshaled parameters from
6 the stub object.

1 16. (previously presented) A mobile unit comprising:

2 a processor that executes software to provide a smart phone operating system and
3 a set of one or more application programs, the operating system and application programs
4 making use of an area-restricted user interface;

5 a first transceiver that communicates in accordance with a wireless wide area
6 network (wWAN) protocol;

7 a second transceiver that communicates in accordance with a short-range wireless
8 protocol;

9 a negotiation module coupled to the second transceiver, the negotiation module
10 operative to engage in a handshaking sequence with a negotiated wireless peripheral to
11 establish a position-dependent ecommerce session therewith;

12 a contract module coupled to the negotiation module and operative to negotiate a
13 billing arrangement with the negotiated wireless peripheral to contract with the negotiated
14 wireless peripheral to use one or more user interface peripheral services; and

15 a reconfiguration module operative to update a configuration definition in the
16 mobile unit to reconfigure one or more user interface peripheral definitions of the mobile

17 unit to include the at least one user interface peripheral augmentation service provided by
18 the negotiated wireless peripheral.

1 17. (previously presented) For use in a mobile unit that communicates with a
2 network server and augments its user interface peripheral capabilities by contracting with
3 a negotiated wireless peripheral, a method comprising:
4 providing an operating system that supports an area-constrained user interface;
5 communicating with a network server in accordance with a wireless wide area
6 network (wWAN) protocol;
7 communicating with a negotiated wireless peripheral;
8 engaging in a handshaking sequence with the negotiated wireless peripheral to
9 establish a position-dependent ecommerce session therewith;
10 negotiating a billing arrangement with the negotiated wireless peripheral to
11 contract with the negotiated wireless peripheral to supply at least one user interface
12 peripheral augmentation service;
13 updating a configuration definition in the mobile unit to reconfigure at least one
14 user interface peripheral definition to reflect the at least one user interface peripheral
15 augmentation service.

1 18. (previously presented) The method of Claim 17, wherein communicating
2 with the negotiated wireless peripheral is performed using a wLAN connection.

1 19. (previously presented) The method of Claim 17, wherein a non-area
2 constrained user interface is presented to the user using the at least one extension
3 peripheral.

1 20. (previously presented) The method of Claim 17, further comprising:
2 communicating with an application server via a WAN to perform client-side
3 processing of a client-server application program;
4 sending a peripheral-reconfiguration message to the application server; and
5 redirecting at least one peripheral input-output stream to the at least one
6 contracted peripheral supplied by the negotiated wireless peripheral.

1 21. (previously presented) The method of Claim 20, further comprising:
2 instantiating a stub object that communicates with a remote object, the remote
3 object being instantiated by and residing within the negotiated wireless peripheral;
4 invoking a method over the stub object, the method corresponding to an input
5 and/or an output operation;
6 passing a message from the stub object to the remote object;
7 whereby the remote object performs the input and/or the output operation in
8 response to the message in order to provide input and/or output devices extension
9 services to the mobile unit.

1 22-44 (cancelled)

1 45. (previously presented) The negotiated wireless peripheral of Claim 1,
2 wherein:
3 the user interface peripheral augmentation service provides the mobile unit with a
4 non-area constrained video viewing monitor screen for viewing downloadable video
5 program content.

1 46. (previously presented) The negotiated wireless peripheral of Claim 1,
2 wherein:
3 the user interface peripheral augmentation service provides the mobile unit with a
4 non-area constrained video viewing monitor screen and the user can redirect a video
5 viewing output stream from an area constrained viewing surface to the non-area
6 constrained video viewing monitor screen provided by the negotiated wireless peripheral.

1 47. (previously presented) The method of Claim 7, wherein:
2 the user interface peripheral augmentation service provides the mobile unit with
3 desktop sized display surface, a desktop-style keyboard, and a pointing device.

1 48. (previously presented) The method of Claim 7, wherein:
2 the user interface peripheral augmentation service comprises a video conferencing
3 user interface for the mobile unit.

1 49. (previously presented) The method of Claim 7, wherein:

2 the user interface peripheral augmentation service provides the mobile unit with a
3 non-area constrained video viewing monitor screen for viewing downloadable video
4 program content.

1 50. (previously presented) The method of Claim 7, wherein:
2 the user interface peripheral augmentation service provides the mobile unit with a
3 non-area constrained video viewing monitor screen and the user can redirect a video
4 viewing output stream from an area constrained viewing surface to be displayed on the
5 non-area constrained video viewing monitor screen provided by the negotiated wireless
6 peripheral.

1 51. (previously presented) The mobile unit of Claim 16, wherein:
2 the user interface peripheral augmentation service provides the mobile unit with
3 desktop sized display surface, a desktop-style keyboard, and a pointing device.

1 52. (previously presented) The mobile unit of Claim 16, wherein:
2 the user interface peripheral augmentation service comprises a video conferencing
3 user interface for the mobile unit.

1 53. (previously presented) The mobile unit of Claim 16, further comprising
2 an area-constrained video display monitor and wherein:

3 the user interface peripheral augmentation service provides the mobile unit with a
4 non-area constrained video viewing monitor screen for viewing downloadable video
5 program content.

1 54. (previously presented) The mobile unit of Claim 16, further comprising:
2 a video-on-demand download module; and
3 an area-constrained video display monitor;
4 wherein the mobile unit contracts with the user interface peripheral augmentation
5 service to provide a non-area constrained video viewing monitor screen and a video
6 output stream is redirected from the area constrained viewing surface to be viewed on the
7 non-area constrained video viewing monitor screen provided by the negotiated wireless
8 peripheral.

1 55. (previously presented) The method of Claim 17, wherein:

2 the user interface peripheral augmentation service provides the mobile unit with
3 desktop sized display surface, a desktop-style keyboard, and a pointing device.

1 56. (previously presented) The method of Claim 17, wherein:
2 the user interface peripheral augmentation service comprises a video conferencing
3 user interface for the mobile unit.

1 57. (presently amended) A negotiated wireless peripheral system (~~NWP~~)
2 comprising:

3 a short-range wireless transceiver operative to support a position-dependent
4 ecommerce session with a mobile unit;

5 a negotiation module coupled to the short-range wireless transceiver, the
6 negotiation module operative to engage in a handshaking sequence with the mobile unit
7 to establish the position-dependent ecommerce session;

8 a service module coupled to the short-range wireless transceiver and is operative
9 to supply at least one WAN-offloading peripheral augmentation service that is coupled to
10 an Internet and employs a wireless local area network air interface and wirelessly
11 communicates with the mobile unit; and

12 a contract module operative to negotiate a billing arrangement with the mobile
13 unit for use of the at least one WAN-offloading peripheral augmentation service;

14 wherein a voice telephony call is established between the mobile unit and a
15 remote voice telephony endpoint, via a cellular network, using a circuit switched cellular
16 telephony protocol, and after the position-dependent ecommerce session is established,
17 the mobile unit switches at least a portion of the voice telephony call from the circuit
18 switched cellular telephony protocol to an Internet protocol, to be carried via the WAN-
19 offloading peripheral augmentation service, using a voice-over-Internet packet telephony
20 protocol, while maintaining a voice connectivity with the remote voice telephony
21 endpoint.

22 ~~wherein the NWP is configured to support a heterogeneous roaming handoff~~
23 ~~protocol to allow a cellular telephony voice telephone call to be disconnected from a~~
24 ~~cellular WAN interface and redirected to communicate with the short range wireless~~

25 ~~transceiver and routed via the Internet as a wide area networked VoIP telephone call, and~~
26 ~~the NWP provides Internet access connectivity to the mobile unit.~~

1 58. (presently amended) For use in a negotiated wireless peripheral system
2 (NWP), a method comprising:

3 communicating via a wireless local area network air interface protocol with a
4 mobile unit to initiate the establishment of a position-dependent ecommerce session
5 therewith;

6 engaging in a handshaking sequence with the mobile unit to establish the position-
7 dependent ecommerce session;

8 negotiating a billing arrangement with the mobile unit;

9 supplying at least one WAN-offloading peripheral augmentation service to the
10 mobile unit, wherein the WAN-offloading peripheral augmentation service is coupled to
11 an Internet and communicates with the mobile unit using the wireless local area network
12 air interface protocol; and

13 billing for the WAN-offloading peripheral augmentation service supplied to the
14 mobile unit;

15 wherein a voice telephony call is established between the mobile unit and a
16 remote voice telephony endpoint, via a cellular network, using a circuit switched cellular
17 telephony protocol, and after the position-dependent ecommerce session is established,
18 the mobile unit switches at least a portion of the voice telephony call from the circuit
19 switched cellular telephony protocol to an Internet protocol, to be carried via the WAN-
20 offloading peripheral augmentation service, using a voice-over-Internet packet telephony
21 protocol, while maintaining a voice connectivity with the remote voice telephony
22 endpoint;

23 ~~wherein the NWP is configured to support a heterogeneous roaming handoff~~
24 ~~protocol to allow a cellular telephony voice telephone call to be disconnected from a~~
25 ~~cellular WAN interface and redirected to communicate with the short-range wireless~~
26 ~~transceiver and routed via the Internet as a wide area networked VoIP telephone call, and~~
27 ~~the NWP provides Internet access connectivity to the mobile unit.~~

1 59. (presently amended) The method of Claim 58, wherein the negotiating is
2 performed by authenticating that the mobile unit ~~to correspond~~ corresponds to a registered
3 customer and the billing is performed in accordance with the customer's pre-arranged
4 billing policy and the engaging and billing are each at least performed in part by a remote
5 server that is in network communication with a negotiated wireless peripheral access
6 point ~~a wireless access point portion of NWP~~.

1 60. (presently amended) A mobile unit comprising:
2 a processor that executes software to provide ~~a smart phone~~ an operating system
3 and a set of one or more application programs, the operating system and application
4 programs making use of an area-restricted user interface;
5 a first transceiver that communicates in accordance with a wireless wide area
6 network (wWAN) protocol;
7 a second transceiver that communicates in accordance with a short-range wireless
8 protocol;
9 a negotiation module coupled to the second transceiver, the negotiation module
10 operative to engage in a handshaking sequence with a negotiated wireless peripheral
11 system ~~(NWP)~~ to establish a position-dependent ecommerce session therewith;
12 a contract module coupled to the negotiation module and operative to negotiate a
13 billing arrangement with the negotiated wireless peripheral system to contract with the
14 negotiated wireless peripheral system ~~NWP~~ to use one or more WAN-offloading
15 peripheral services that are coupled to an Internet and communicate with the mobile unit
16 using a wireless local area network air interface ~~and also include a coupling to an~~
17 ~~Internet~~;
18 a reconfiguration module operative to ~~update a configuration definition in the~~
19 ~~mobile unit to~~ reconfigure a communication protocol stack in the mobile unit to make use
20 the WAN-offloading peripheral augmentation service provided by the negotiated wireless
21 peripheral system ~~NWP~~; and
22 a telephony module ~~comprising a heterogeneous roaming software function~~
23 configured to:

24 change a processing of a telephone call from a cellular telephony media
25 processing protocol for use in communicating via a cellular network using a
26 circuit switched cellular telephony protocol to a voice over Internet (VoIP)
27 protocol; and
28 redirect the telephone call from communicating using the first transceiver
29 to communicating using the second transceiver so at least a portion of the
30 telephone call can be routed via the Internet as a wide area networked VoIP
31 telephone call routing at least partially through the WAN-offloading peripheral
32 augmentation service.